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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,359	01/30/2006	Kunihiko Tsunedomi	05620857315US	3479

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EXAMINER

BARNES, CRYSTAL J

ART UNIT	PAPER NUMBER
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2121

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/566,359	TSUNEDOMI ET AL.	
	Examiner	Art Unit	
	Crystal J. Barnes	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>30 Jan & 3 May '06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is an initial Office Action upon examination of the above-identified application on the merits. Claims 1-14 are pending in this application.

Priority

2. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 365(c) is acknowledged. Applicant has complied with the conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 365(c).

Information Disclosure Statement

3. The examiner has considered the information disclosure statement (IDS) submitted on 30 January and 3 May 2006.
4. The information disclosure statement filed 30 January 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It

has been placed in the application file, but the non-patent literature publication referred to therein has not been considered.

Drawings

5. Figures 8 and 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 3 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 1 recites the limitation "said task" in line 10. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 1 recites that the task processor performs a task process on the basis of both an interruption signal and a task processing signal. Examiner is unclear of which signal prompts the task processor to perform the task process.

10. Claim 3 recites the limitations "said event processing means" and "said event process" in lines 21-22. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 10 recites the limitations "said task deciding means" and "said continuity" in lines 3-5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-6 and 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,154,832 to Maupin.

As per claim 1, the Maupin reference discloses a real-time control system comprising a driver unit (see column 3 lines 46-56, "I/O block 14") for receiving an input signal ("input/output cells") and outputting an interruption signal (see column 4 lines 3-9, "service request register 34A-34F") corresponding to each task process (see column 4 lines 13-17, "task"), a polling unit (see column 4 lines 11-13, "processor 12") for polling ("polls") on the basis of said interruption signal ("service request register 34A-34F"), and a task processor ("processor 12") for performing a task process ("task ... executed") on the basis of said interruption signal ("service request register 34A-34F"), wherein: said polling unit ("processor 12") outputs a task processing signal ("polls") on the basis of said polling when said task is finished

(see column 7 lines 20-26, "scheduling task") and said task processor ("processor 12") performs said task process ("task ... executed") on the basis of said task processing signal ("polls").

As per claim 2, the Maupin reference discloses said task processor ("processor 12") is composed of event processing means (see column 7 lines 20-26, "scheduling task") for executing an event process (see column 7 lines 36-38, "polled service request register") and task deciding means (see column 7 lines 63-66, "schedule implementation task") for deciding continuity of said event process ("task terminates") and said event processing means ("scheduling task"), when said decision result is continuation ("task terminates"), continuously executes said event process ("polled service request register").

As per claim 3, the Maupin reference discloses said event processing means ("scheduling task") performs said event process ("polled service request register") of starting a cycle (see column 7 lines 54-56, "fixed time interval").

As per claim 4, the Maupin reference discloses said polling unit ("processor 12") polls ("polls") a timer ("scheduling task") and outputs said task processing signal ("polled service request register") corresponding to a start time (see column 7 lines 54-56, "fixed time interval") of said task process ("task ... executed").

As per claim 5, the Maupin reference discloses said task deciding means ("schedule implementation task"), on the basis of a continuation count of said task process or existence of an interruption signal (see column 7 lines 63-64, "halt instruction") during said task process ("task ... executed"), decides continuity of said task process ("task ... executed").

As per claim 6, the Maupin reference discloses further comprising a scheduler ("scheduling task") for communicating with said driver unit (see column 3 lines 46-56, "I/O block 14"), said task processor ("processor 12"), and said polling unit ("processor 12"), starting in correspondence to reception of said interruption signal ("polled service request register"), and storing said decision result ("service request register 34A-34F").

As per claim 8, the Maupin reference discloses said scheduler ("scheduling task"), until it ("scheduling task") stores said decision result of end (see column 7 lines 43-44, "scheduling list") when said task deciding means ("schedule implementation task") is in operation (see column 7 lines 63-64, "invoked"), inhibits said interruption signal ("halt instruction") to interrupt said task ("tasks terminates").

As per claim 9, the Maupin reference discloses said polling unit ("processor 12") polls said interruption signal ("service request register 34A-34F") generated during said event process ("scheduling task") and outputs said task processing signal ("polled service request register") for executing said event process ("scheduling task") corresponding to said interruption signal ("service request register 34A-34F").

As per claim 10, the Maupin reference discloses said task deciding means (see column 7 lines 63-66, "schedule implementation task"), on the basis of existence of said task processing signal ("polled service request register"), decides said continuity of said event process ("task terminates").

As per claim 11, the Maupin reference discloses when said plurality of task processing signals ("polled service request register") are detected at the same time ("real-time"), said task deciding means ("schedule implementation task") assigns priority (see column 7 lines 26-32, "priority scheme") to each of said task processing signals ("polled service request register") and then reads them.

As per claim 12, the Maupin reference discloses when said plurality of task processing signals ("polled service request register") are detected at the same time ("real-time"), said task deciding means ("schedule implementation task"), at

said detection time ("real-time"), reads in priority signals (see column 7 lines 26-32, "priority scheme") different from said task processing signals ("polled service request register") corresponding to said event process ("task ... executed") performed by said event processing means ("scheduling task").

As per claim 13, the Maupin reference discloses when said plurality of task processing signals ("polled service request register") are detected at the same time ("real-time"), said task deciding means ("schedule implementation task") assigns priority (see column 7 lines 26-32, "priority scheme") to each of said task processing signals ("polled service request register") and then reads them.

As per claim 14, the Maupin reference discloses when said plurality of task processing signals ("polled service request register") are detected at the same time ("real-time"), said task deciding means ("schedule implementation task"), at said detection time ("real-time"), reads in priority signals (see column 7 lines 26-32, "priority scheme") different from said task processing signals ("polled service request register") corresponding to said event process ("task ... executed") performed by said event processing means ("scheduling task").

Allowable Subject Matter

14. Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to efficient task processing in general:

USPN 7,114,163 B2 to Hardin et al.

USPN 7,058,949 B1 to Willen et al.

USPN 6,633,942 B1 to Balasubramanian

USPN 6,425,038 B1 to Sprecher

USPN 6,260,058 B1 to Hoenninger et al.

USPN 5,619,409 to Schultz et al.

USPN 5,153,837 to Shaffer et al.

USPN 5,081,577 to Hatle

US Pub. No. 2004/0088704 A1 to Owen et al.

US Pub. No. 2004/0049628 A1 to Lin et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 571.272.3679. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571.272.3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



CRYSTAL J. BARNES
PRIMARY PATENT EXAMINER
CJB

27 March 2007